

# TRUFFLE LITE

## Broadband Bonding™ Network Appliance

with cellular data card failover/aggregation capability



The Truffle Lite Broadband Bonding Network Appliance, enables cost-effective Internet access solutions for small office, home office, medium size businesses, apartments, hotels & other multi-tenant buildings who wish to aggregate multiple Internet access services for increased performance and reliability. The Truffle Lite aggregates the capacity of two (or optionally as many as four) T-1, DSL or cable modem services and two usb based cellular data card providing increased access bandwidth for downloaded HTTP traffic equal to the combined bandwidth of the aggregated links, even to a single user. The Truffle Lite provides this higher access capacity and more reliable Internet access at a cost much lower than expensive fiber optic or T-3 access service. It has a small fanless, yet ruggedized desktop form factor.

### TRUFFLE LITE FEATURES

#### Downlink/uplink bonding in peered mode

Bonds Internet access lines for all types of traffic (including encrypted traffic such as VPN) for aggregated downlink and uplink capacity when peered over the Internet with another BBNA device located at the headquarter office or data center. For single office setups optional Broadband Bonding Service subscription enables downlink/uplink bonding.

#### Aggregated downlink capacity in standalone mode

When not peered with another BBNA device, all HTTP downlink sessions use the aggregated bandwidth of the combined Internet access links, even in the case of a single HTTP session. For non-HTTP downlink sessions and all

uplink sessions, Truffle Lite provides session-based intelligent load balancing across the access links in standalone mode.

**Link failure recovery & link failover** - In case of Internet access line failures, the Truffle Lite keeps the ongoing sessions alive by retransmitting the lost packets over the available access lines, even for the sessions in progress, without loss of data integrity. Additionally automatic failover protects against failures of one or more access link outages. 2G/3G/4G cellular cards can be added as standby WAN access links for additional reliability.

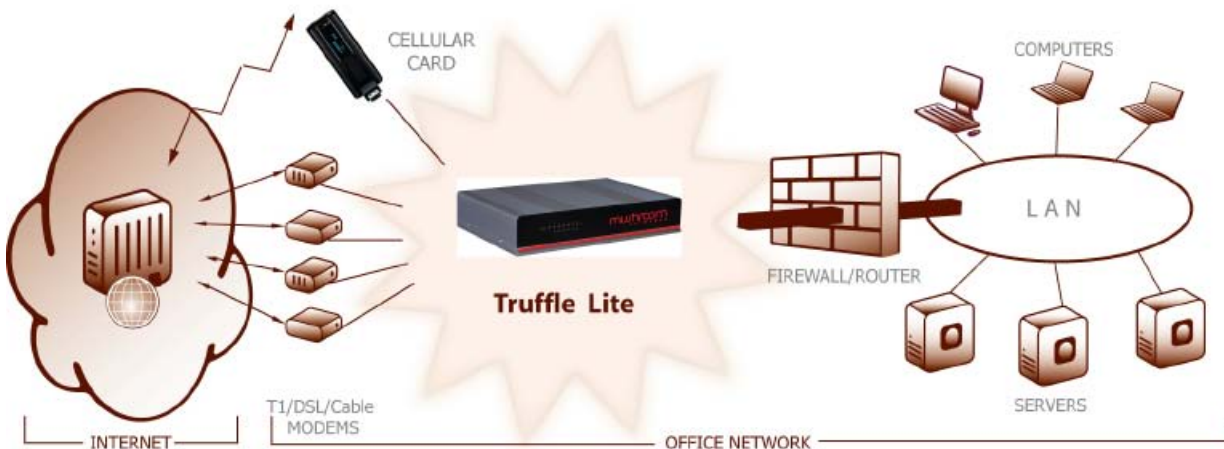
**Traffic Monitoring & Shaping** - Traffic can be monitored via graphical plots over seconds/minutes/hours/days/months. Various realtime and non-realtime traffic types can be filtered and shaped.

**Transparent installation** - The existing Local Area Network does not require any changes. No coordination, new equipment or software is needed from the Internet Service Provider(s). A remotely accessible browser-based management interface provides quick and easy configuration and system monitoring.

**Advanced QoS algorithms** - All traffic routed through the Truffle Lite is intelligently managed to prioritize real-time traffic. Additionally a unique set of proprietary algorithms are implemented to improve inbound real-time traffic latency metrics specifically for VoIP applications.

**Dynamic DNS load balancing** - Truffle Lite can be configured to provide Dynamic DNS load-balancing for inbound requests for internally hosted servers such as web-server, ftp-server, mail-server etc.

**Bonding  
the world**





Truffle Lite Front Panel



Truffle Lite Rear Panel

## TRUFFLE LITE HARDWARE SPECIFICATIONS

Mechanical Dimensions	9"(W) x 6.04" (D) x 1.73"(H), desktop form factor
Weight	5.51 lbs.
Input Power Requirement	external power supply 12V DC, 5 Amp
USB ports	2 (for cellular data card and future software uploads)
LAN ports (10/100/1000 baseT, auto-sensed)	2 RJ-45 Ethernet connector
WAN ports (10/100/1000 baseT, auto-sensed)	4 RJ-45 Ethernet connector. 2 WAN ports active. 3rd, 4th WAN ports can be optionally activated.
Certifications	FCC, CE, RoHS-5, ICES-03, UL, cUL
Operating Temperature Range	32 - 104 F, 0 - 40 °C
Operating Humidity Range	10-95% RH, non-condensing
Storage Temperature Range	-4 - 158 F, -20 - 70 °C

## TRUFFLE LITE SOFTWARE SPECIFICATIONS

Max throughput	65 Mbits/sec (standalone), 20 Mbps (peered)
Max number of concurrent IP sessions	56,000 (customizable for higher number of concurrent IP sessions)
Device management	<ul style="list-style-type: none"> <li>-Web based management</li> <li>-SNMP</li> <li>-Remote syslog</li> <li>-Email Alerts</li> </ul>
DHCP and DNS servers	<ul style="list-style-type: none"> <li>-DNS relay</li> <li>-Parallel DNS optimization</li> <li>-Support for DHCP server</li> </ul>
DDNS	-Support dynamic DNS for multiple interfaces
WAN configurations	<ul style="list-style-type: none"> <li>-Support for various configuration modes: static, PPPoE, DHCP, Passthrough.</li> <li>-Selectable "failover-only" or "aggregate" modes for cellular data card and other WAN ports.</li> <li>-User configurable WAN interface binding</li> </ul>
Routing	NAT and IP Forwarding, QoS and inbound/outbound VoIP quality management
UPnP	Support for peer-to-peer applications

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